

$$y = \$6.00 + \$0.25x$$

$$y = \$10.00 + \$0.10x$$

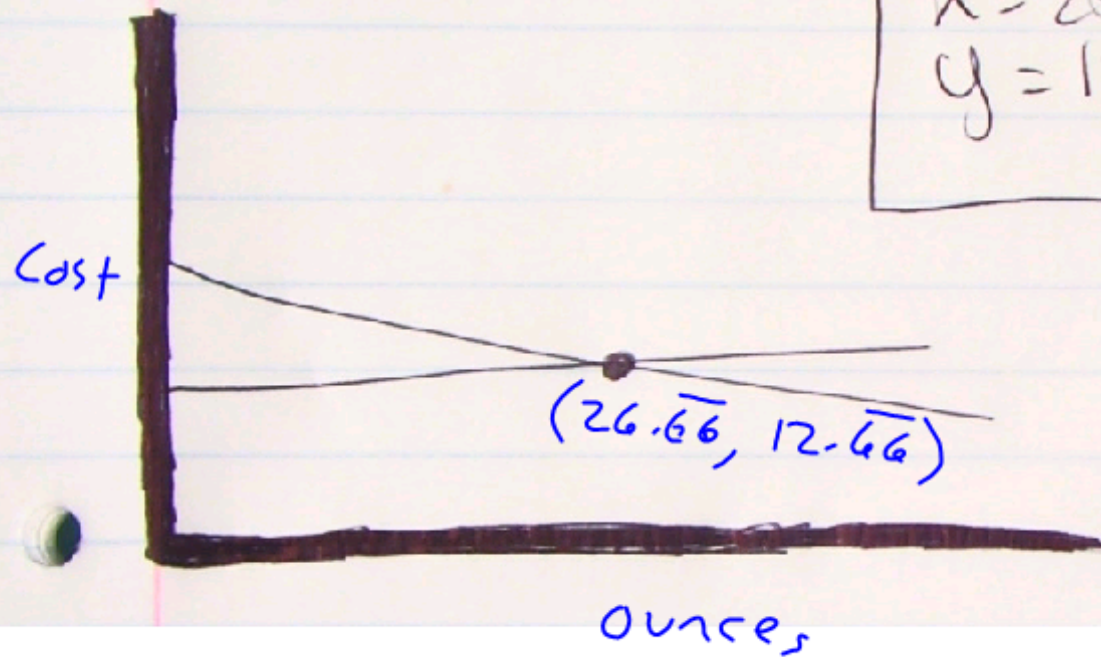
$$y = mx + b$$

$\downarrow$  slope       $\downarrow$  start

$$\begin{aligned} x &= 25 \\ y &= 12.5 \end{aligned}$$

$$26.667$$

The inter-  
section is  
at —



- 4) The Robinsons are trying to decide between two tour groups for their white water family reunion. Group A costs \$100 for the guide and then \$8 per person for the equipment. Group B costs \$130 for the guide but only \$5 per person for equipment. How many family members would they need before tour group B would be a better deal?

4)

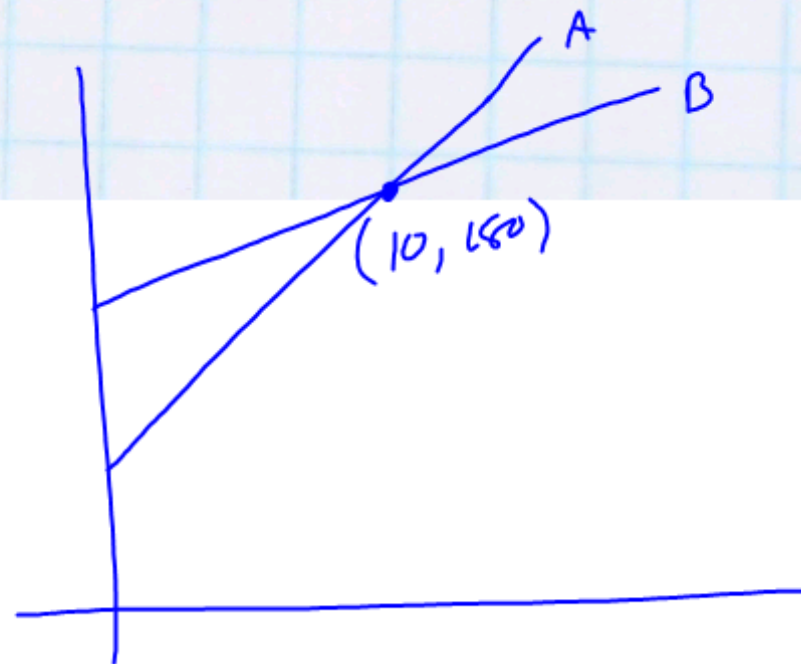
$$A: y = 8x + 100$$

$$B: y = 5x + 130$$

 $x = \overset{\#}{\text{people}}$  $y = \text{Total cost}$ 

$$x = 10 \text{ family members}$$

$$y = \$180$$





- 3) A shipping company ships educational materials to day care providers. One mail service charges a flat rate of \$6.00 per package plus \$0.25 per ounce. The other company charges \$10.00 per package, but only \$0.10 per ounce. Draw a conclusion about which company would be better for what size of package. Show all your work.

$$y = 8x + 100$$

$$y = 5x + 130$$

$$y = 8(10) + 100 = 180$$

$$y = 5(10) + 130 = 180$$

$$\begin{array}{r} 8x + 100 = 5x + 130 \\ -5x \quad \quad -5x \end{array}$$

$$\begin{array}{r} 3x + 100 = 130 \\ -100 \quad -100 \end{array}$$

$$\frac{3}{3}x = \frac{30}{3}$$

$$x = 10 \text{ people}$$

$$y = 180$$

Find the intersection of

$$\begin{array}{l} \underline{y = 6x - 8} \\ y = 5x - 5 \end{array}$$

algebraically

$$\begin{array}{r} 6x - 8 = 5x - 5 \\ -5x \quad -5x \end{array}$$

$$\begin{array}{r} 1x - 8 = -5 \\ +8 \quad +8 \end{array}$$

$$\boxed{x = 3}$$

$$y = 6(3) - 8 \quad \boxed{y = 10}$$

Find point of intersection algebraically

$$y = \underline{3x + 7}$$

$$y = 5x + 3$$

$$y = 3(2) + 7$$

$$\boxed{y = 13}$$

$$\begin{array}{r} 3x + 7 = 5x + 3 \\ -3x \quad -3x \end{array}$$

$$\begin{array}{r} 7 = 2x + 3 \\ -3 \quad -3 \end{array}$$

$$\begin{array}{r} 4 = 2x \\ \underline{2} \end{array}$$

$$\boxed{x = 2}$$

Sect. 6.2  
#2-7